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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/695,415

10/29/2003

Hidenori Kawanishi

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MORRISON & FOERSTER LLP  
1650 TYSONS BOULEVARD  
SUITE 400  
MCLEAN, VA 22102

EXAMINER

VAN ROY, TOD THOMAS

ART UNIT

PAPER NUMBER

2828

MAIL DATE

DELIVERY MODE

06/11/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

Application No.

10/695,415

Applicant(s)

KAWANISHI ET AL.

Examiner

Tod T. Van Roy

Art Unit

2828

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 16 March 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1,10,11,21 and 24-26 is/are pending in the application.
- 4a) Of the above claim(s) 2-9,12-19,22 and 23 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,10,11,21 and 24-26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 11/22/2006 has been entered.

### ***Election/Restrictions***

Claims 2-9, 12-19, and 22-23 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected embodiment, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 03/16/2007.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1, 10, 11, 21, and 24-26 rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter that was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claims 1, 10, 11, 21, and 24-26 describe a device comprising an active layer comprising at least two barriers and a well that is directly deposited on a lower clad layer, and further comprising a guide layer (AlGaAs based). The specification does not describe any embodiments wherein the active layer is directly deposited onto the lower clad without the guide layer being placed between the two.

Claims 2-9, 12-19, and 22-23 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter that was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claims 2-9, 12-19, and 22-23 describe a device comprising an active layer comprising at least two barriers and a well that is directly deposited on a substrate, and further comprising a guide layer (AlGaAs based). The specification does not describe any embodiments wherein the active layer is directly deposited onto the substrate without the guide layer, and a lower clad, being placed between the two.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the

Art Unit: 2828

applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 10, 11, 21, and 24-26 are rejected, as *best understood*, under 35 U.S.C. 102(e) as being anticipated by Ohkubo et al. (US 6912237).

With respect to claim 1, Ohkubo discloses a semiconductor laser device comprising: a first conductivity type semiconductor substrate (fig.2a #10, n-GaAs, col.5 line 25), a first conductivity type lower clad layer deposited on the substrate (fig.2a #16a, n, col.10 lines 18-43), a quantum well active layer (fig.2a #17) deposited directly on the first conductivity type lower clad layer, a second conductivity type upper clad layer deposited directly on the quantum well active layer (fig.2a #16b, p, col.10 lines 18-43), and a guide layer made of an AlGaAs based material (fig.2a #18, described as a waveguide, col.5 line 44), wherein the quantum well active layer comprises at least two barrier layers and at least one well layer, and the barrier layers and the well layers are alternately stacked such that a top layer and a bottom layer of the quantum well active layer are barrier layers (col.6 lines 24-27), and wherein the quantum well active layer is made of a non-Al based material (well-InGaAsP, barriers-InGaAs, col.6 37-43) and is doped with a second conductivity type of impurity (col.9 lines 24-27, p).

With respect to claim 11, Ohkubo discloses the laser device outlined in the rejection to claim 1, and further discloses the active layer to be doped with a first type of impurity (col.9 lines 24-27, n).

With respect to claims 21 and 24, Ohkubo further discloses the formation of the devices (col.15).

Art Unit: 2828

With respect to claim 25, Ohkubo further discloses the n dopant is Si (col.9 lines 50-55).

With respect to claim 26, Ohkubo further discloses the doping is less than  $2 \times 10^{17}$  ( $5 \times 10^{16}$ , col.9 lines 64-66).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claim 10 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohkubo.

With respect to claims 10 and 20, Ohkubo teaches the laser device outlined in claims 1 and 11, but does not teach the use of the laser device as the source in an optical disk unit. It would have been obvious to one of ordinary skill in the art at the time

Art Unit: 2828

of the invention to use the laser device of Ohkubo in an optical disc unit as outputted wavelength regime is well known for use in optical disc technologies (taught to be adjustable, col.6 lines 37-43).

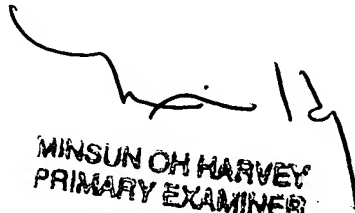
### **Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tod T. Van Roy whose telephone number is (571)272-8447. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Minsun Harvey can be reached on (571)272-1835. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

TVR

  
MINSUN OH HARVEY  
PRIMARY EXAMINER